AMENDMENTS TO THE CLAIMS:

Please amend claims 1, 5, 7, 9, 13 and 15 as set forth in the following listing of claims. This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A polarization stabilizing device comprising:

an input light path for receiving a light signal having an arbitrary polarization state;

a divider arranged in the input light path to split the light signal into first and second components;

a first interferometric arm arranged to receive from the divider the first component of the light signal;

a second interferometric arm arranged to receive from the divider the second component of the light signal;

an output path for outputting the light signal from the first and second interferometric arms;

at least one polarizer arranged either in the first and second interferometric arms, or in the output path, to define an output polarization state for the light signal; and

at least one elliptical retarder arranged in at least one of the first and second interferometric arms to generate first and second polarization states in the first and second interferometric arms, respectively, that are orthogonal to each other for at least one polarization state of the input light signal so that the first polarization state is transmitted by the at least one polarizer and the second polarization state is absorbed

by the at least one polarizer, thereby to output the light signal in the output polarization state defined by the at least one polarizer.

2. (Previously presented) A polarization stabilizing device comprising:

an input light path for receiving a light signal having an arbitrary polarization state;

a divider arranged in the input light path to split the light signal into first and second components;

a first interferometric arm arranged to receive from the divider the first component of the light signal;

a second interferometric arm arranged to receive from the divider the second component of the light signal;

an output path for outputting the light signal from the first and second interferometric arms;

at least one polarizer arranged either in the first and second interferometric arms, or in the output path, to define an output polarization state for the light signal;

at least one retarder arranged in at least one of the first and second interferometric arms to generate first and second polarization states in the first and second interferometric arms, respectively, that are orthogonal to each other for at least one polarization state of the input light signal so that the first polarization state is transmitted by the at least one polarizer and the second polarization state is absorbed by the at least one polarizer, thereby to output the light signal in the output polarization state defined by the at least one polarizer; and

a phase shifter arranged in one of the first and second interferometric arms to ensure that there is an optical path difference between the first and second interferometric arms that is higher than a coherence length specified for the light signal.

3. (Original) A device according to claim 1, further comprising a combiner arranged to combine the first and second components of the light signal into the output path.

4. (Original) A device according to claim 1, wherein the at least one polarizer comprises a polarizing element placed in the output path.

5. (Currently amended) A polarization stabilizing device ~~A device according to claim 1, wherein the~~ comprising:

an input light path for receiving a light signal having an arbitrary polarization state;

a divider arranged in the input light path to split the light signal into first and second components;

a first interferometric arm arranged to receive from the divider the first component of the light signal;

a second interferometric arm arranged to receive from the divider the second component of the light signal;

an output path for outputting the light signal from the first and second interferometric arms;

at least one polarizer ~~comprises~~ comprising a polarizing element placed in the first and second interferometric arms to define an output polarization state for the light signal; and

at least one retarder arranged in at least one of the first and second interferometric arms to generate first and second polarization states in the first and second interferometric arms, respectively, that are orthogonal to each other for at least one polarization state of the input light signal so that the first polarization state is transmitted by the at least one polarizer and the second polarization state is absorbed by the at least one polarizer, thereby to output the light signal in the output polarization state defined by the at least one polarizer.

6. (Previously presented) A polarization stabilizing device comprising:

an input light path for receiving a light signal having an arbitrary polarization state;

a divider arranged in the input light path to split the light signal into first and second components;

a first interferometric arm arranged to receive from the divider the first component of the light signal;

a second interferometric arm arranged to receive from the divider the second component of the light signal;

an output path for outputting the light signal from the first and second interferometric arms;

at least one polarizer arranged either in the first and second interferometric arms, or in the output path, to define an output polarization state for the light signal, wherein the at least one polarizer comprises a first polarizing element placed in the first interferometric arm and a second polarizing element placed in the second interferometric arm; and

at least one retarder arranged in at least one of the first and second interferometric arms to generate first and second polarization states in the first and second interferometric arms, respectively, that are orthogonal to each other for at least one polarization state of the input light signal so that the first polarization state is transmitted by the at least one polarizer and the second polarization state is absorbed by the at least one polarizer, thereby to output the light signal in the output polarization state defined by the at least one polarizer.

7. (Currently amended) A device according to claim 1, wherein the at least one elliptical retarder comprises a retarding element arranged in the first interferometric arm.

8. (Previously presented) A polarization stabilizing device comprising:

an input light path for receiving a light signal having an arbitrary polarization state;

a divider arranged in the input light path to split the light signal into first and second components;

a first interferometric arm arranged to receive from the divider the first component of the light signal;

a second interferometric arm arranged to receive from the divider the second component of the light signal;

an output path for outputting the light signal from the first and second interferometric arms;

at least one polarizer arranged either in the first and second interferometric arms, or in the output path, to define an output polarization state for the light signal; and

at least one retarder arranged in at least one of the first and second interferometric arms to generate first and second polarization states in the first and second interferometric arms, respectively, that are orthogonal to each other for at least one polarization state of the input light signal so that the first polarization state is transmitted by the at least one polarizer and the second polarization state is absorbed by the at least one polarizer, thereby to output the light signal in the output polarization state defined by the at least one polarizer, wherein the at least one retarder comprises a first retarding element arranged in the first interferometric arm and a second retarding element arranged in the second interferometric arm.

9. (Currently amended) An optical component comprising:

an optical device having an input for receiving an input light signal, the optical device being sensitive to the polarization state of the input light signal; and

a polarization stabilizing device ~~according to claim 1~~ arranged to stabilize the polarization state of the input light signal prior to supplying the input light signal to the input of the optical device, the polarization stabilizing device comprising:

an input light path for receiving a light signal having an arbitrary polarization state;

a divider arranged in the input light path to split the light signal into first and second components;

a first interferometric arm arranged to receive from the divider the first component of the light signal;

a second interferometric arm arranged to receive from the divider the second component of the light signal;

an output path for outputting the light signal from the first and second interferometric arms;

at least one polarizer arranged either in the first and second interferometric arms, or in the output path, to define an output polarization state for the light signal; and

at least one retarder arranged in at least one of the first and second interferometric arms to generate first and second polarization states in the first and second interferometric arms, respectively, that are orthogonal to each other for at least one polarization state of the input light signal so that the first

polarization state is transmitted by the at least one polarizer and the second polarization state is absorbed by the at least one polarizer, thereby to output the light signal in the output polarization state defined by the at least one polarizer.

10. (Original) An optical component according to claim 9, wherein the optical device is a semiconductor optical amplifier (SOA).

11. (Original) An optical component according to claim 9, wherein the optical device is an electro-optic switch.

12. (Original) An optical component according to claim 9, wherein the optical device is an optical splitter.

13. (Currently amended) An optical network comprising at least one polarization stabilizing device, ~~according to claim 1~~ the at least one polarization stabilizing device comprising:

an input light path for receiving a light signal having an arbitrary polarization state;

a divider arranged in the input light path to split the light signal into first and second components;

a first interferometric arm arranged to receive from the divider the first component of the light signal;

a second interferometric arm arranged to receive from the divider the second component of the light signal;

an output path for outputting the light signal from the first and second interferometric arms;

at least one polarizer arranged either in the first and second interferometric arms, or in the output path, to define an output polarization state for the light signal; and

at least one retarder arranged in at least one of the first and second interferometric arms to generate first and second polarization states in the first and second interferometric arms, respectively, that are orthogonal to each other for at least one polarization state of the input light signal so that the first polarization state is transmitted by the at least one polarizer and the second polarization state is absorbed by the at least one polarizer, thereby to output the light signal in the output polarization state defined by the at least one polarizer.

14. (Original) A method of polarization stabilization, comprising:

inputting a light signal into an interferometer arrangement comprising first and second arms having an optical path difference therebetween greater than the coherence length of the light signal;

applying a retardation to the light signal in at least one of the arms so that subsequent to the retardation the light signal has orthogonal polarization states in the first and second arms for at least one polarization state of the input light signal; and

applying a polarization with a polarizer so that one of the orthogonal polarization states is absorbed while the other is transmitted.

15. (Currently amended) A method ~~according to claim 14~~ of polarization stabilization, comprising:

inputting a light signal into an interferometer arrangement comprising first and second arms having an optical path difference therebetween greater than the coherence length of the light signal;

applying a retardation to the light signal in at least one of the arms so that subsequent to the retardation the light signal has orthogonal polarization states in the first and second arms for at least one polarization state of the input light signal; and

applying a polarization with a polarizer so that one of the orthogonal polarization states is absorbed while the other is transmitted, wherein the polarization is applied in the first and second arms.

16. (Original) A method according to claim 14, wherein the polarization is applied subsequent to recombination of the light signal after the first and second arms.

17. (Original) A method according to claim 14, further comprising recombining the light signal after the first and second arms in a manner that is insensitive to the polarization state of the light signal input to the interferometer arrangement.